

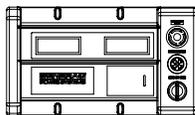
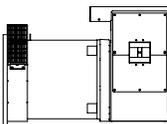
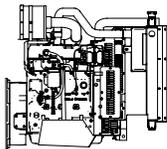
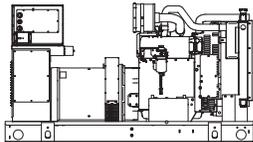
SD050

CUSTOM MODEL

Industrial Diesel Generator Set

EPA Emissions Certification: Tier III

Standby Power Rating
50KW 60 Hz



features

benefits

Generator Set

- PROTOTYPE & TORSIONALLY TESTED
 - UL2200 TESTED
 - RHINOCOAT PAINT SYSTEM
 - SOUND LEVEL 2 ENCLOSURE
- ▶ PROVIDES A PROVEN UNIT
 - ▶ ENSURES A QUALITY PRODUCT
 - ▶ IMPROVES RESISTANCE TO ELEMENTS
 - ▶ 71dba @ 7 METERS (23FT)

Engine

- EPA TIER CERTIFIED
 - INDUSTRIAL TESTED, GENERAC APPROVED
 - POWER-MATCHED OUTPUT
 - INDUSTRIAL GRADE
- ▶ ENVIRONMENTALLY FRIENDLY
 - ▶ ENSURES INDUSTRIAL STANDARDS
 - ▶ ENGINEERED FOR PERFORMANCE
 - ▶ IMPROVES LONGEVITY AND RELIABILITY

Alternator

- TWO-THIRDS PITCH
 - LAYER WOUND ROTOR & STATOR
 - CLASS H MATERIALS
 - DIGITAL 3-PHASE VOLTAGE CONTROL
- ▶ ELIMINATES HARMFUL 3RD HARMONIC
 - ▶ IMPROVES COOLING
 - ▶ HEAT TOLERANT DESIGN
 - ▶ FAST AND ACCURATE RESPONSE

Controls

- ENCAPSULATED BOARD W/ SEALED HARNESS
 - 4-20mA VOLTAGE-TO-CURRENT SENSORS
 - SURFACE-MOUNT TECHNOLOGY
 - ADVANCED DIAGNOSTICS & COMMUNICATIONS
- ▶ EASY, AFFORDABLE REPLACEMENT
 - ▶ NOISE RESISTANT 24/7 MONITORING
 - ▶ PROVIDES VIBRATION RESISTANCE
 - ▶ HARDENED RELIABILITY

primary codes and standards



SD050

application and engineering data

ENGINE SPECIFICATIONS

General

Make	Iveco / FPT
EPA Emissions Compliance	Tier III
EPA Emissions Reference	See Emissions Data Sheet
Cylinder #	4
Type	Diesel
Displacement - L (cu. in.)	4.5 (274)
Bore - mm (in.)	105 (4.1)
Stroke - mm (in.)	132 (5.2)
Compression Ratio	17.5:1
Intake Air Method	Turbocharged
Cylinder Head Type	2 Valve
Piston Type	Aluminum
Crankshaft Type	Forged Steel
Engine Block Type	Cast Iron / Wet Sleeve

Engine Governing

Governor	Electronic Isochronous
Frequency Regulation (Steady State)	+/- 0.25%

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full Flow
Crankcase Capacity - L (gal)(qts)	13.6 (3.6) (14.4)

Cooling System

Cooling System Type	Closed
Water Pump	Belt Driven Centrifugal
Fan Type	Pusher
Fan Blade Number	2538 (10)
Fan Diameter (in.)	26
Coolant Heater Wattage	1500
Coolant Heater Standard Voltage	120

Fuel System

Fuel Type	Ultra Low Sulfur Diesel Fuel
Fuel Specifications	ASTM
Fuel Filtering (microns)	5
Fuel Inject Pump Make	Standyne
Fuel Pump Type	Engine Driven Gear
Injector Type	Mechanical
Engine Type	Direct Injection
Fuel Supply Line - mm (in.)	1/4 inch Npt
Fuel Return Line - mm (in.)	1/4 inch Npt

Engine Electrical System

System Voltage	12VDC
Battery Charging Alternator	90 Amp
Battery Size (at 0 oC)	Optima Redtop
Battery Group	34
Battery Voltage	12VC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	390
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	< 3.5%
Telephone Interference Factor (TIF)	< 50
Standard Excitation	PMG
Bearings	Single Sealed Cartridge
Coupling	Direct, Flexible Disc
Load Capacity - Standby	100%
Load Capacity - Prime	100%
Prototype Short Circuit Test	Y

Voltage Regulator Type	Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	+/- 0.25%

CODES AND STANDARDS COMPLIANCE (WHERE APPLICABLE)

- NFPA 99
- NFPA 110
- ISO 8528-5
- ISO 1708A.5
- ISO 3046
- BS5514
- SAE J1349
- DIN6271
- IEEE C62.41 TESTING
- NEMA ICS 1

Rating Definitions:

Standby – Applicable for a varying emergency load for the duration of a utility power outage with no overload capability. (Max. load factor = 70%)

Prime – Applicable for supplying power to a varying load in lieu of utility for an unlimited amount of running time. (Max. load factor = 80%) A 10% overload capacity is available for 1 out of every 12 hours.

SD050

operating data (60Hz)

POWER RATINGS (kW)

Single-Phase 120/240VAC @1.0pf
 Three-Phase 120/208VAC @0.8pf
 Three-Phase 120/240VAC @0.8pf
 Three-Phase 277/480VAC @0.8pf
 Three-Phase 346/600VAC @0.8pf

STANDBY		
50	Amps:	208
-	Amps:	-

NOTE: Generator output limited to 200A.

STARTING CAPABILITIES (sKVA)

sKVA vs. Voltage Dip

Alternator*	kW	480VAC						208/240VAC					
		10%	15%	20%	25%	30%	35%	10%	15%	20%	25%	30%	35%
Standard	50	-	-	-	-	-	-	26	39	52	65	77	90
Upsize 1		-	-	-	-	-	-	-	-	-	-	-	-
Upsize 2		-	-	-	-	-	-	-	-	-	-	-	-

*All Generac industrial alternators utilize Class H insulation materials. Standard alternator provides less than or equal to Class B temperature rise. Upsize 1 provides less than or equal to Class B temperature rise. Upsize 2 provides less than or equal

FUEL

Fuel Consumption Rates

Fuel Pump Lift - in (m)
36(.9)

STANDBY		
Percent Load	gph	lph
25%	1.52	5.75
50%	2.33	8.82
75%	3.08	11.65
100%	4.15	15.71

COOLING

Coolant System Capacity - Gal (L)
4.5 (17.44)

Maximum Radiator Backpressure
1.5" H₂O Column

STANDBY		
Coolant Flow per Minute	gpm (lpm)	32.7(123.8)
Heat rejection to Coolant	BTU/min	123,000
Inlet Air	cfm (m3/min)	6,360 (180.0)
Max. Operating Radiator Air Temp	F° (C°)	122(50)
Max. Operating Ambient Temperature	F° (C°)	122(50)

COMBUSTION AIR REQUIREMENTS

Intake Flow at Rated Power
 cfm (m3/min) 247 (7.00)

EXHAUST

Exhaust Outlet Size (Open Set)
3.0"
 Maximum Backpressure (Post-Silencer)
1.5" Hg

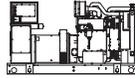
STANDBY		
Exhaust Flow (Rated Output)	cfm (m3/hr)	534(906.7)
Maximum Backpressure	inHg (Kpa)	1.5 (5.1)
Exhaust Temp (Rated Output)	°F (°C)	930(498.8)

ENGINE

STANDBY		
Rated Engine Speed	rpm	1800
Horsepower at Rated kW	hp	93
Temperature Deration		Consult Factory
Altitude Deration		Consult Factory

* CA units include aftertreatment

GENERATOR SET



- Genset Vibration Isolation Std
- Factory Testing Std
- Extended warranty Std
- Padlockable Doors Std
- Steel Enclosure (Enclosed Models) Std
- Remote Emergency Shutdown Opt

ENGINE SYSTEM



General

- Oil Drain Extension Std
- Air Cleaner Std
- Industrial Exhaust Silencer (Open Sets, ship loose) Std
- Critical Exhaust Silencer (Enclosed Sets) Std
- Stainless steel flexible exhaust connection Std

Fuel System

- Primary Fuel Filter with Water Separator Std
- Flexible Fuel Lines Std
- UL142 Fuel Tank, 48 Hr Runtime Std
- 2 Gal Overflow Containment with Alarm Std

Cooling System

- 120VAC Coolant Heater (3-wire connection cord) Std
- 50%/50% Coolant Std
- Level 1 Guarding (Open Sets) Std
- Closed Coolant Recovery System Std
- UV/Ozone resistant hoses Std
- Factory-Installed Radiator Std
- Radiator Drain Extension Std
- Fan guard Std
- Radiator duct adapter (Open Sets) Std
- Std

Engine Electrical System

- Battery charging alternator Std
- Battery cables Std
- Battery tray Std
- 75W 120VAC Battery heater Std
- Solenoid activated starter motor Std
- 10A UL float/equalize battery charger Std
- Weather Resistant electrical connections Std
- Duplex GFCI Convenience Outlet Std

ALTERNATOR SYSTEM



- UL2200 GENprotect™ Std
- 100% Rated 200A Main Line Circuit Breaker Std

CONTROL SYSTEM



Control Panel

- Digital H Control Panel - Dual 4x20 Display Std
- Programmable Crank Limiter Std
- 7-Day Programmable Exerciser (requires H-Transfer Switch) Std
- Special Applications Programmable PLC Std
- RS-232 Std
- RS-485 Std
- All-Phase Sensing DVR Std
- Full System Status Std
- Utility Monitoring (Req. H-Transfer Switch) Std
- 2-Wire Start Compatible Std
- Power Output (kW) Std
- Power Factor Std
- Reactive Power Std
- All phase AC Voltage Std
- All phase Currents Std
- Oil Pressure Std
- Coolant Temperature Std
- Coolant Level Std
- Low Fuel Pressure Indication Std
- Engine Speed Std
- Battery Voltage Std
- Frequency Std
- Date/Time Fault History (Event Log) Std
- UL2200 GENprotect™ Std
- Low-Speed Exercise Opt
- Isochronous Governor Control Std
- 40deg C - 70deg C Operation Std
- Weather Resistant Electrical Connections Std
- Audible Alarms and Shutdowns Std
- Not in Auto (Flashing Light) Std
- On/Off/Manual Switch Std
- E-Stop (Red Mushroom-Type) Std
- Remote E-Stop (Break Glass-Type, Surface Mount) -
- Remote E-Stop (Red Mushroom-Type, Surface Mount) -
- Remote E-Stop (Red Mushroom-Type, Flush Mount) -
- NFPA 110 Level I and II (Programmable) Std
- Remote Communication - RS232 Std

Alarms (Programmable Tolerances, Pre-Alarms and Shutdowns)

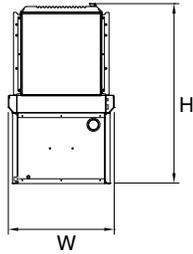
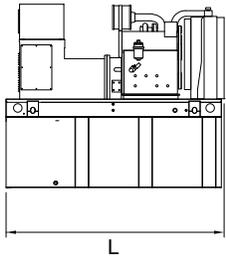
- Low Fuel Std
- Oil Pressure (Pre-programmed Low Pressure Shutdown) Std
- Coolant Temperature (Pre-programmed High Temp Shutdo) Std
- Coolant Level (Pre-programmed Low Level Shutdown) Std
- Engine Speed (Pre-programmed Overspeed Shutdown) Std
- Voltage (Pre-programmed Overvoltage Shutdown) Std
- Battery Voltage Std

Other Options

- Single Side Service
- _____
- _____

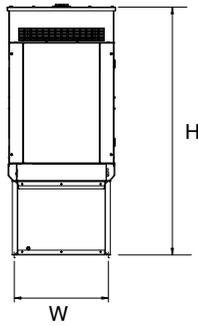
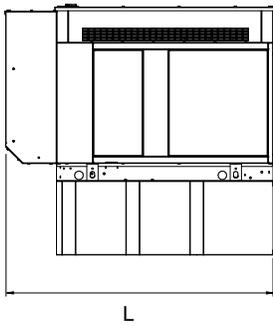
SD050

dimensions, weights and sound levels



OPEN SET

		TANK SIZE						dBA*
RUNTIME HOURS	CAPACITY (GAL)	TANK VOLUME	L	W	H	WT		
○	-	-	-	-	-	-	-	84
○	-	-	-	-	-	-	-	
○	-	-	-	-	-	-	-	
○	-	-	-	-	-	-	-	
○	-	-	-	-	-	-	-	
●	48	210	210	76	38	87	3400	
○	-	-	-	-	-	-	-	
○	-	-	-	-	-	-	-	



LEVEL 2 SOUND ENCLOSURE

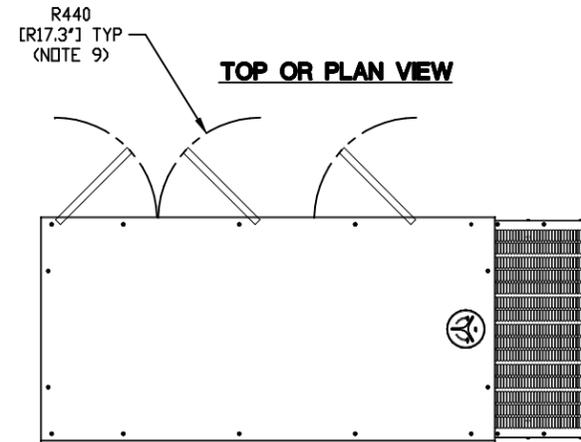
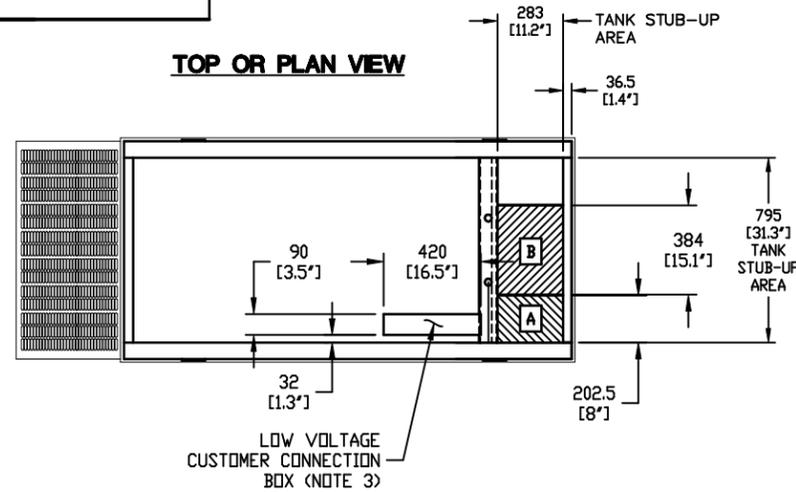
		TANK SIZE						dBA*
RUNTIME HOURS	CAPACITY (GAL)	TANK VOLUME	L	W	H	WT		
○	-	-	-	-	-	-	-	71
○	-	-	-	-	-	-	-	
○	-	-	-	-	-	-	-	
○	-	-	-	-	-	-	-	
○	-	-	-	-	-	-	-	
●	48	210	210	94.8	38	99	3935	
○	-	-	-	-	-	-	-	
○	-	-	-	-	-	-	-	

*Required gallons based on 100% of standby rating. Weights consider steel enclosure and are without fuel in tank. Sound levels measured at 23ft (7m) and does not account for ambient site conditions.

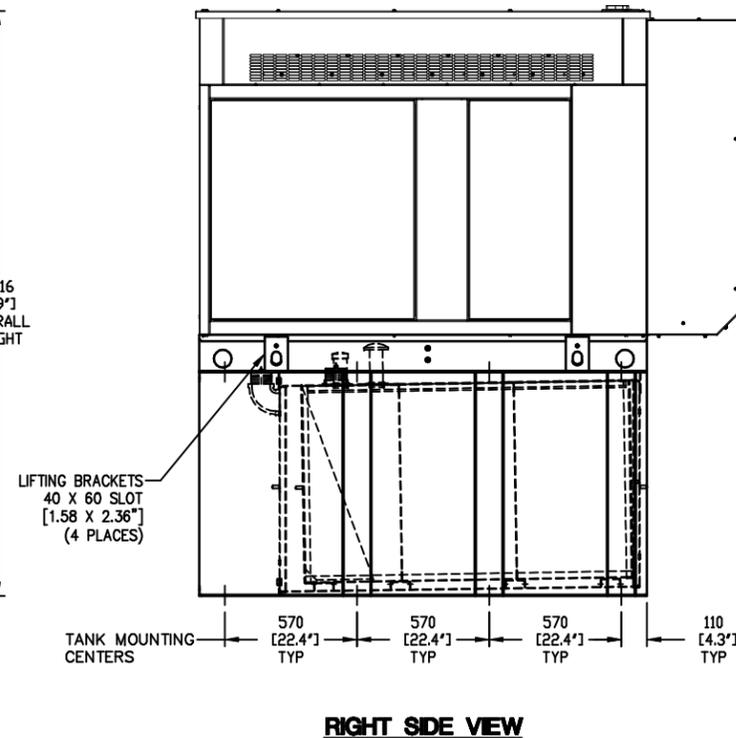
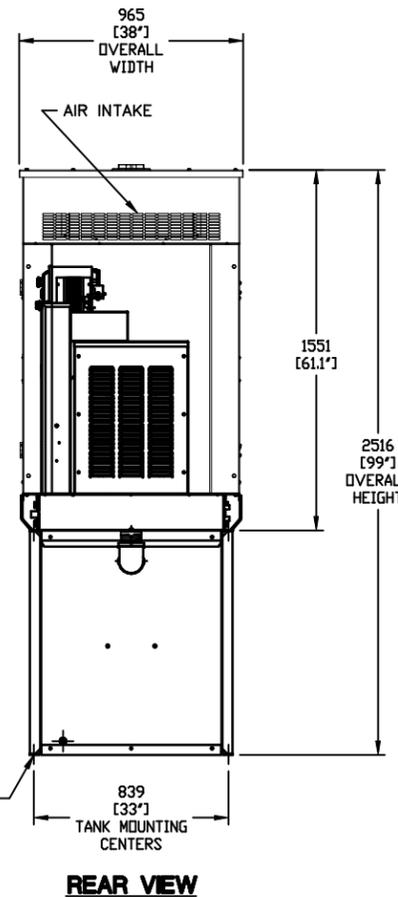
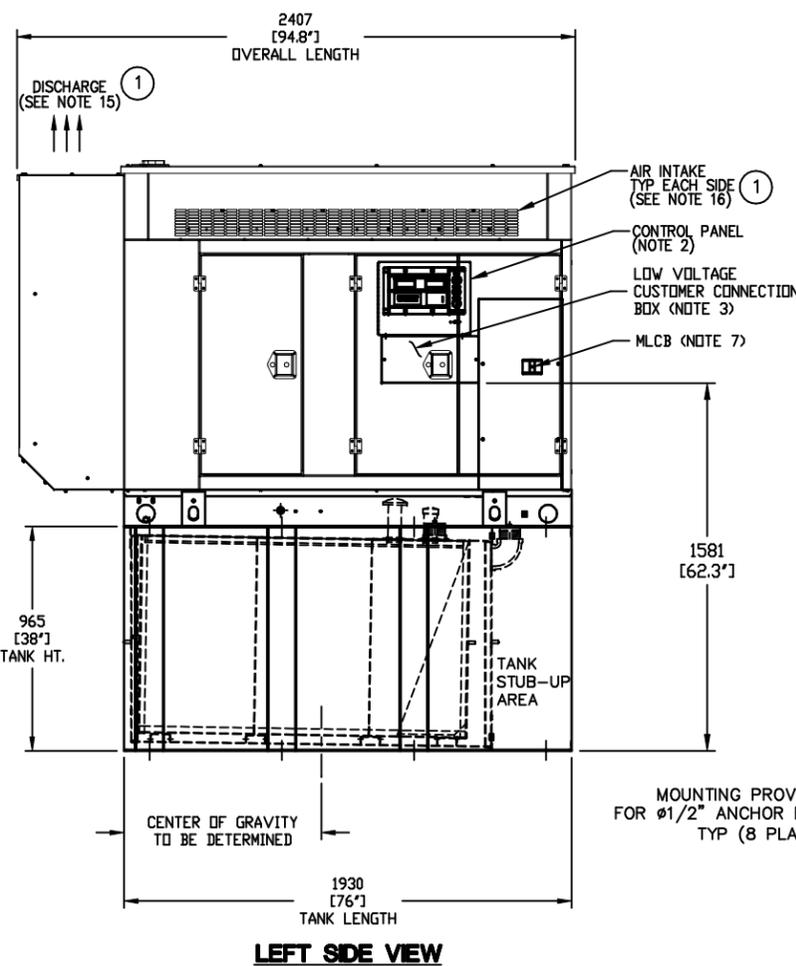
YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

Specification characteristics may change without notice. Dimensions and weights are for preliminary purposes only. Please consult a Generac Power Systems Industrial Dealer for detailed installation drawings.

0J2534



RECOMMENDED ELECTRICAL STUB-UPS (SEE TOP VIEW)	
DESCRIPTION	INSIDE BASE
AC LOAD LEAD CONDUIT GLAND AREA	A
1) LOW VOLTAGE CUSTOMER CONNECTION BOX FOR 120VAC GFCI OUTLET, (STANDARD BLOCK HEATER, BATTERY CHARGER AND OTHER 120 VAC OPTIONS).	B SEE NOTE 3
2) TRANSFER SWITCH/ COMMUNICATION CONDUITS. COMMUNICATIONS AND 2-WIRE START MUST NOT BE RUN IN CONDUIT WITH AC WIRING.	



NOTES:

- THE LEFT SIDE OF THE GENERATOR IS SERVICE ACCESSIBLE.
- 10 AMP BATTERY CHARGER ENCLOSED WITHIN CONTROL PANEL.
- CONNECTION POINTS FOR CONTROL WIRES. BOTTOM OF LOW VOLTAGE CUSTOMER CONNECTION BOX HAS KNOCKOUTS FOR 1/2" AND 3/4" CONDUIT FITTINGS.
- GENERATOR MUST BE GROUNDED.
- 12 VOLT NEGATIVE GROUND SYSTEM.
- OPTIONAL REMOTE EMERGENCY STOP SHIPPED LOOSE WITH GENERATOR.
- MAIN LINE CIRCUIT BREAKER (MLCB), AC LOAD LEAD CONNECTION AND AUXILIARY 120/240V CONNECTION.
- LEVEL 2A SOUND ATTENUATED ENCLOSURE STANDARD WITH GENERATOR.
- DOORS MUST BE ABLE TO OPEN 90 DEG. TO BE REMOVED. DOORS ARE LOCATED ON THE LEFT SIDE OF THE GENERATOR ONLY.
- STUB-UPS: BASE TANK REQUIRES ALL STUB-UPS TO BE IN THE REAR TANK STUB-UP AREA.
- 'A' IS THE STUB UP AREA FOR THE MLCB AND NEUTRAL CONNECTION.
- SEE DRAWING 0C3850 FOR DUCT REMOVAL. REMOVAL OF FRONT DUCT WILL PROVIDE ACCESS TO MUFFLER.
- 120VAC ENGINE BLOCK HEATER.
- 210 GALLON USEABLE CAPACITY BASETANK STANDARD WITH GENERATOR.
- MUST ALLOW FREE FLOW OF DISCHARGE AIR AND EXHAUST. SEE SPEC SHEET FOR MINIMUM AIR FLOW AND MAXIMUM RESTRICTION REQUIREMENTS.
- MUST ALLOW FREE FLOW OF INTAKE AIR. SEE SPEC SHEET FOR MINIMUM AIR FLOW AND MAXIMUM RESTRICTION REQUIREMENTS.
- IT IS THE RESPONSIBILITY OF THE INSTALLATION TECHNICIAN TO ENSURE THAT THE GENERATOR INSTALLATION COMPLIES WITH ALL APPLICABLE CODES, STANDARDS, AND REGULATIONS.

WEIGHT DATA (INCLUDES WOODEN SHIPPING SKID)
ENCLOSED GENERATOR WITH EMPTY FUEL TANK - TO BE DETERMINED

UNITS: mm [INCHES]

PRELIMINARY

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INSTALLATION D4.5L G17 50KW
ENCLOSED LEVEL 2A

GENERAC POWER SYSTEMS
Waukesha
P.O. BOX 8
WAUKESHA, WIS. 53187

FILE NAME 0J2534.DWG SIZE B

SCALE NTS FIRST USE AT&T

DWG NO. REV

0J2534 1

INSTALLATION DRAWING